UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/809,526	03/15/2001	Ilija Hadzic	1	4517

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EXAMINER
CHO, HONG SOL

ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-38_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-16, 18-31, 33-38_ is/are rejected.

7)☒ Claim(s) _17,32 and 38_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _15 March 2001_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _10202004_.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Drawings

1.   New corrected drawing is required in this application because legends are not complete

for figures 1-8. Applicant is advised to employ the services of a competent patent

draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer

prepares new drawings. The corrected drawings are required in reply to the Office action

to avoid abandonment of the application. The requirement for corrected drawings will not

be held in abeyance.

Specification

2.   The title of the invention is not descriptive. A new title is required that is clearly

indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(e) that form

the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

4.   Claim 15, 16, and 18-20 are rejected under 35 U.S.C. 102(e) as being unpatentable over

Yip et al (U.S 6618388), hereinafter referred to as Yip.

Re claims 15, 16, and 18, Yip discloses an edge switch in MAN having ports connected

to the customer domain where Ethernet packets are generated and transmitted to the

receiving customer through the virtual MAN (*an edge switch in metropolitan area*

Ethernet network with ports coupled to the local area Ethernet network and transmitting

Ethernet packets to one of local area Ethernet networks, figure 1, element 100).

Re claims 15, 19, and 20, Yip discloses an edge switch forwarding the stripped frame in

accordance with the destination address and forwarding data stored internally to the

switch (*establishing an association between addresses of local area Ethernet network*

and metropolitan area Ethernet network, column 6, lines 3-10).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
such that the subject matter as a whole would have been obvious at the time the invention was made to a person
having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
manner in which the invention was made.

6.   Claims 1-14, 28-31, and 33-38 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Levenson et al (U.S 6807172), hereinafter referred to as Levenson, in view of Yip.

Re claims 1, 4, and 28-30, Levenson discloses port circuitry loading its own source index

into the incoming frame (*assigning the source address of encapsulating Ethernet frame to*

be the address of the port at which packet was received, figure 6; column 10, lines 42-

44). Levenson fails to disclose encapsulating Ethernet packets, which are transported

over a single MAN, received at an edge switch. However, Yip discloses a Metropolitan

Area Network (MAN) including edge switches and virtual local area networks where

Ethernet packets are generated (figure 1, element 100). Yip discloses encapsulating

Ethernet packets, which are transported over a single MAN, received at an edge switch

(*encapsulating contents of a first Ethernet packet received at a port of a switch of a*

metropolitan area Ethernet network in at least one encapsulating Ethernet packet that is

to traverse said metropolitan area Ethernet network, column 1, lines 64-67; column 4,

lines 5-101; lines 52-53). It would have been obvious to one having ordinary skill in the

art at the time the invention was made to implement Levenson into Yip for a network

switch to switch frames within a computer network (column 1, lines 21-24).

Re claim 2, Levenson discloses encapsulating the entire data packet (figure 6).

Re claims 3 and 8, Levenson does not disclose encapsulating a portion of Ethernet

packet. However, it would have been obvious to one having ordinary skill in the art at

the time the invention was to modify Levenson to encapsulate a portion of Ethernet

packet when the encapsulation of the Ethernet packet exceeds the maximum size of

Ethernet packet and assigning a port address of the edge switch to be the address of the

source address of the encapsulating packet.

Re claims 4 and 5, Levenson does not disclose encapsulating Ethernet packet at the edge

switch in MAN connected to a customer domain that generates Ethernet data packet.

However, Yip discloses encapsulating Ethernet packet at the edge switch (*interface*

between said metropolitan are Ethernet network and another Ethernet network) in MAN

(*metropolitan are Ethernet network which serves a plurality of entitles*, figure 1, element

100) connected to a customer domain that generates Ethernet data packet (*Ethernet network which serves only a single one of said entities*, figure 1, element 110). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have encapsulating of Ethernet packet and assigning of port address performed at the edge switch of Yip.

Re claims 6 and 7, Levenson discloses encapsulating Ethernet packet with VLAN ID to the tagged frame (*encapsulating Ethernet packet with an entity identifier*, VLAN tag, column 10, lines 22-24).

Re claims 9 and 10, Levenson discloses port circuitry loading its own destination index into the incoming frame and use it to forward the frame to the appropriate port and onto destination (*assign encapsulating packet a destination address between the destination address of Ethernet packet and a portion of MAN*, column 15, lines 40-46).

Re claims 11-14, neither Levenson nor Yip specifically discloses assigning an encapsulating packet as a broadcast when said packet is a broadcast or multicast packet. However, it is well known in the network switching system that a network switch broadcasts a frame to all ports when a switch can't find a match in its flow control table.

Re claims 31, 35, and 36, neither Levenson nor Yip discloses segmenting Ethernet packet into two packets and encapsulating each packet with source and destination address. However, it would have been obvious to one having ordinary skill in the art at the time the invention was to modify Levenson to segment Ethernet packet into two packets when the encapsulation of the Ethernet packet exceeds the maximum size of Ethernet packet and assigning a port address of the edge switch to be the address of the source address of

the encapsulating packet and assigning the destination address to the encapsulating

packet.

Re claims 33 and 37, neither Levenson nor Yip discloses an encapsulating packet that is

segmented into two packets with CRC bit field or assigned with frame sequence number

and reassembled at the receiving end. However, it is well known in the art that standard

Ethernet packet contain CRC bit field such as Frame Check Sequence (FCS) so that

fragmented packets are reassembled at the receiving terminal.

Re claim 34, Levenson discloses a frame encapsulated with source and destination index

(figure 6).

Re claim 38, neither Levenson nor Yip discloses encapsulating segmented packets to

conformed size of packet length. However, it would have been obvious to one having

ordinary skill in the art at the time the invention was to modify Levenson to segment

Ethernet packet into two packets when the encapsulation of the Ethernet packet exceeds

the maximum size of Ethernet packet and encapsulating segmented packets within the

size of standard Ethernet packet to conform to the Ethernet packet standard.

Claims 21-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yip in view

of Levenson.

Re claim 21, neither Levenson nor Yip specifically discloses extracting a portion of data

from two segmented and encapsulated packets and reconstructing the original packet

from them. However, it is well known in the network system that packets are segmented

into smaller packets and reassembled at the receiving end.

Re claims 22-24, Yip fails to discloses encapsulating Ethernet packet with source and

destination address fields. Levenson discloses adding source and destination index fields

to the incoming frame (*an encapsulating packet contains source and destination field

with inner packet as a payload*, figure 6). It would have been obvious to one having

ordinary skill in the art at the time the invention was to encapsulate data packet of Yi to

include source address from the port of an edge switch and destination address from the

address of metropolitan area Ethernet network so that the encapsulated packet is switch

based on those addresses.

Re claims 25-27, neither Levenson nor Yip specifically discloses assigning an

encapsulating packet as a broadcast when said packet is a broadcast or multicast packet.

However, it is well known in the network switching system that a network switch

broadcasts a frame to all ports when a switch can't find a match in its flow control table.

Claim Objections

7.   Claim 38 is objected to because of the following informality:

Re claim 38, at line 2, "is selected" is repeated twice.

Allowable Subject Matter

8.   Claims 17 and 32 are objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the

base claim and any intervening claims.

Claim 17 is allowable over the prior art of record since the cited references taken

individually or in combination fails to particularly disclose <u>a time stamp with each said</u>

<u>associated address within said at least one local area Ethernet network and address of said</u>

<u>ports in said metropolitan area Ethernet network</u>.

Claim 32 is allowable over the prior art of record since the cited references taken

individually or in combination fails to particularly disclose <u>dividing first and second parts</u>

<u>taken from portions of said first packets is a function of a random number generator with</u>

<u>a prescribed distribution</u>.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

- US Patent (6570875) to Hedge discloses automatic filtering and creation of virtual

  LANs among a plurality of switch ports

- US Patent (6760776) to Gallo et al discloses method for processing network frames

  by embedding network control information

10.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Hong Cho whose telephone number is 571-272-3087.

The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-3088.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

Hong Cho
Patent Examiner
10-20-2004

RICKY NGO
PRIMARY EXAMINER
10/29/04